What is claimed is:

1. A pattern forming method comprising:

forming an etching-subject layer on a substrate;

forming a Ti layer on the etching-subject layer;

forming a TiOx layer by irradiating light on a portion of the Ti layer using a mask;

etching the Ti layer to form a TiOx pattern;

etching the etching-subject layer using the TiOx pattern as a mask; and

removing the TiOx pattern.

2. The method of claim 1, wherein the light is an ultraviolet ray or laser.

3. The method of claim 1, wherein the Ti layer is oxidized by the irradiation of the light to form the TiOx layer.

4. The method of claim 1, wherein etching the Ti layer includes applying an etching solution having an acid.

5. The method of claim 4, wherein the acid includes HF.

6. The method of claim 1, wherein etching the Ti layer includes the applying an etching gas containing Cl_2.

7. The method of claim 1, wherein etching the Ti layer includes applying the etching gas includes a Cl_2-mixed gas.

8. The method of claim 7, wherein the Cl_2-mixed gas includes $CF_4/Cl_2/O_2$ gas.

9. The method of claim 1, wherein removing the TiOx pattern includes applying the etching solution having H_2SO_4.

10. The method of claim 1, wherein removing the TiOx pattern includes applying an alkali based etching solution.

11. The method of claim 1, wherein removing the TiOx pattern includes applying the etching gas including Cl_2/N_2 gas.

12. The method of claim 1, wherein removing the TiOx pattern includes applying the etching gas including CF_4/Cl_2.

13. The method of claim 1, wherein the etching-subject layer is one of a metal layer, an insulating layer and a semiconductor layer.

14. The method of claim 1, wherein the Ti layer is formed with the same equipment as

the etching-subject layer.

15. A pattern forming method comprising:

forming an etching-subject layer on a substrate;

forming a Ti layer on the etching-subject layer;

oxidizing a portion of the Ti layer to form an TiOx pattern;

etching the etching-subject layer using the TiOx pattern as a mask; and

removing the TiOx pattern.

16. The method of claim 15, wherein oxidizing a portion of the Ti layer includes irradiating light onto the Ti layer using a mask.

17. The method of claim 16, wherein the light is one of ultraviolet light and laser.

18. A pattern forming method comprising:

forming an etching-subject layer on a substrate;

forming a TiO_2 layer including a first region and a second region on the etching-subject layer;

irradiating light onto the first region of the TiO_2 layer using a mask;

etching the second region of the TiO_2 layer;

etching the etching-subject layer using the first region of the TiO_2 layer as a mask; and

removing the first region of the TiO_2 layer.

19. The method of claim 18, wherein forming the TiO_2 layer includes depositing TiO_2 on the etching-subject layer.

20. The method of claim 18, wherein forming the TiO_2 layer includes:

depositing Ti on the etching-subject layer to form a Ti layer; and

oxidizing the Ti layer.

21. The method of claim 20, wherein the Ti layer is oxidized by irradiation of light.

22. The method of claim 18, wherein the light is ultraviolet light or laser.

23. The method of claim 18, wherein the hydrophobic surface of the first region of the TiO_2 layer is changed to be hydrophilic one by the irradiation of the light.

24. The method of claim 18, wherein etching the second region of TiO_2 layer includes applying an etching solution including H_2SO_4 to the TiO_2 layer.

25. The method of claim 18, wherein etching the second region of TiO_2 layer includes applying an alkali based etching solution to the TiO_2 layer.

26. The method of claim 18, wherein removing the first region of TiO_2 layer includes

applying an etching gas having Cl_2/N_2 gas to the first region of the TiO_2 layer.

27. The method of claim 18, wherein removing the first region of TiO_2 layer includes applying the etching gas having CF_4/Cl_2 gas to the first region of TiO_2 layer.

28. The method of claim 18, wherein the etching-subject layer includes one of a metal layer, an insulating layer and a semiconductor layer.

29. The method of claim 18, wherein the TiO_2 layer is formed using the same equipment used for forming the etching-subject layer.

30. A pattern forming method comprising:

forming an etching-subject layer on a substrate;

forming a TiO_x layer on the etching-subject layer;

changing a surface of the TiO_x layer from hydrophobic to hydrophilic such that the TiO_x layer has a hydrophobic surface and a hydrophilic surface;

etching a portion of TiO_x layer having a hydrophobic surface to form a hydrophilic TiO_x pattern;

etching the etching-subject layer using the hydrophilic TiO_x pattern as a mask; and

removing the hydrophilic TiO_x pattern.

31. The method of claim 30, wherein changing a surface of the TiO_x layer includes

irradiating light onto the TiO_x layer.

32. The method of claim 31, wherein the light includes one of ultraviolet and laser.

33. A pattern forming method comprising:

providing an etching-subject layer;

forming a metal layer on the etching-subject layer;

oxidizing a portion of the metal layer to form a metallic oxide layer portion and non-oxidized metal layer portion;

removing the non-oxidized metal layer portion using a first etching means;

etching the etching-subject layer using the metallic oxide layer as a mask; and

etching the metallic oxide layer using a second etching means.

34. The method of claim 33, wherein the metal layer includes a Ti.

35. The method of claim 34, wherein the metallic oxide layer portion includes TiOx.

36. The method of claim 33, wherein the first etching means is an etching solution having a higher etching rate on the non-oxidized metal layer portion than on the metallic oxide layer portion.

37. The method of claim 33, wherein the first etching means is an etching gas having a

higher etching rate on the non-oxidized metal layer portion than on the metallic oxide layer portion.

38. The method of claim 33, wherein the second etching means is an etching solution having a higher etching rate on the metallic oxide layer portion than on the non-oxidized metal layer portion.

39. The method of claim 33, wherein the second etching means is an etching gas having a higher etching rate on the metallic oxide layer portion than on the non-oxidized metal layer portion.

40. A method for fabricating a liquid crystal display device, the method comprising:

providing a substrate;

forming a gate electrode on the substrate using a first metal masking layer;

depositing a gate insulating layer over the substrate;

forming a semiconductor layer on the gate insulating layer using a second metal masking layer;

forming source/drain electrodes on the semiconductor layer using a third metal masking layer;

forming a passivation layer over the substrate; and

depositing a pixel electrode on the passivation layer.

41. The method of claim 40, wherein the first, second and third metal masking layers are each comprised of Ti.

42. The method of claim 41, wherein forming the gate electrode includes the steps of:

forming a metal layer on the substrate;

forming the first metal masking layer made of Ti on the metal layer;

irradiating light onto a portion of the first metal masking layer using a mask to form a TiOx masking layer portion and a Ti masking layer portion;

etching the Ti masking layer portion;

etching the metal layer using the TiOx masking layer portion as a mask; and

removing the TiOx masking layer portion.

43. The method of claim 41, wherein forming the semiconductor layer includes:

depositing the semiconductor layer on the gate insulating layer;

forming the second metal masking layer made of Ti on the semiconductor layer;

irradiating light onto a portion of the second metal masking layer using a mask to form a TiOx masking layer portion and a Ti masking layer portion;

etching the Ti masking layer portion;

etching the semiconductor layer using the TiOx masking layer portion as a mask; and

removing the TiOx masking layer portion.

44. The method of claim 41, wherein forming the source/drain electrode includes:

forming a metal layer on the semiconductor layer;

forming the third metal masking layer made of Ti on the metal layer;

irradiating light to a portion of the metal masking layer using a mask to form a TiOx masking layer portion and a Ti masking layer portion;

etching the Ti masking layer portion;

etching the metal layer using the TiOx masking layer portion as a mask; and

removing the TiOx masking layer portion.

45. The method of claim 40, wherein depositing the pixel electrode includes:

forming an Indium Tin Oxide layer on the passivation layer;

forming a fourth metal masking layer made of Ti on the Indium Tin Oxide layer;

irradiating light to a portion of the metal masking layer by using a mask to form a TiOx masking layer portion and a Ti masking layer portion;

etching the Ti masking layer portion;

etching the Indium Tin Oxide layer using the TiOx masking layer portion as a mask; and

removing the TiOx masking layer portion.

46. The method of claim 40, wherein the first, second and third metal masking layers are each comprised of TiO_2.

47. The method of claim 46, wherein forming the gate electrode includes:

forming a metal layer on the substrate;

forming the first metal masking layer made of TiO_2 on the metal layer;

irradiating light onto a portion of the TiO_2 layer to change a surface of the TiO_2 layer from hydrophobic to hydrophilic such that the TiO_2 layer has a hydrophobic surface and a hydrophilic surface;

etching a portion of TiO_2 layer having a hydrophobic surface to form a hydrophilic TiO_2 pattern;

etching the metal layer using the hydrophilic TiO_2 pattern as a mask; and

removing the hydrophilic TiO_2 pattern.

48. The method of claim 46, wherein forming the semiconductor layer includes:

depositing the semiconductor layer on the insulating layer;

forming the metal masking layer made of TiO_2 on the semiconductor layer;

irradiating light onto a portion of the TiO_2 layer to change a surface of the TiO_2 layer from hydrophobic to hydrophilic such that the TiO_2 layer has a hydrophobic surface and a hydrophilic surface;

etching a portion of TiO_2 layer having a hydrophobic surface to form a hydrophilic TiO_2 pattern;

etching the semiconductor layer using the hydrophilic TiO_2 pattern as a mask; and

removing the hydrophilic TiO_2 pattern.

49. The method of claim 46, wherein forming the source/drain electrodes includes:

forming a metal layer on the semiconductor layer;

forming the metal making layer made of TiO_2 on the metal layer;

irradiating light onto a portion of the TiO_2 layer to change a surface of the TiO_2 layer from hydrophobic to hydrophilic such that the TiO_2 layer has a hydrophobic surface and a hydrophilic surface;

etching a portion of TiO_2 layer having a hydrophobic surface to form a hydrophilic TiO_2 pattern;

etching the metal layer using the hydrophilic TiO_2 pattern as a mask; and

removing the hydrophilic TiO_2 pattern.

50. The method of claim 46, wherein depositing the pixel electrode includes:

forming an indium tin oxide layer on the passivation layer;

forming the fourth metal making layer made of TiO_2 on the ITO layer;

irradiating light onto a portion of the TiO_2 layer to change a surface of the TiO_2 layer from hydrophobic to hydrophilic such that the TiO_2 layer has a hydrophobic surface and a hydrophilic surface;

etching a portion of TiO_2 layer having a hydrophobic surface to form a hydrophilic TiO_2 pattern;

etching the Indium Tin Oxide layer using the hydrophilic TiO_2 pattern as a mask; and

removing the hydrophilic TiO_2 pattern.

51. A method for fabricating a semiconductor device, the method comprising:

depositing an insulating layer on a semiconductor substrate;

forming a metal layer on the insulating layer;

forming a Ti layer on the metal layer;

irradiating light onto a portion of the second metal masking layer using a mask to form a TiOx masking layer portion and a Ti masking layer portion;;

etching TiOx masking layer portion to form a TiOx pattern as a mask;

etching the metal layer using the TiOx pattern and removing the TiOx pattern to form a gate electrode; and

introducing ions to the semiconductor substrate to form source/drain regions.

52. The method of claim 51, wherein the ions are introduced through the insulating layer.

53. The method of claim 51, wherein etching the metal layer includes simultaneously etching of the insulating layer together with metal layer.

54. The method of claim 53, wherein the ions are introduced directly into the semiconductor substrate.

55. A method for fabricating a semiconductor device, the method comprising:

depositing an insulating layer on a semiconductor substrate;

forming a metal layer on the insulating layer;

forming a TiO_2 layer on the metal layer;

irradiating light onto a portion of the TiO_2 layer to change a surface of the TiO_2 layer from hydrophobic to hydrophilic such that the TiO_2 layer has a hydrophobic surface and a hydrophilic surface;

etching a portion of TiO_2 layer having a hydrophobic surface to form a hydrophilic TiO_2 pattern;

etching the metal layer using the hydrophilic TiO_2 pattern as a mask to form a gate electrode; and

introducing ions to the semiconductor substrate to form source/drain regions.